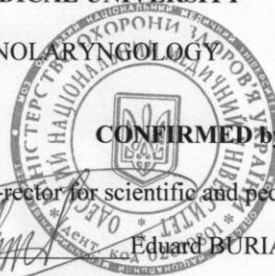


MINISTRY OF HEALTH OF UKRAINE
ODESA NATIONAL MEDICAL UNIVERSITY
Department of OTORHINOLARYNGOLOGY



CONFIRMED by

Acting vice-rector for scientific and pedagogical work

Eduard BURIACHKIVSKYI

September 1st, 2023

WORKING PROGRAM IN THE DISCIPLINE
«OTORHINOLARYNGOLOGY»

Level of higher education: second (master's degree)

Field of knowledge: 22 «Health care»

Specialty: 222 «Medicine»

Educational and professional program: Medicine

2023


The working program is compiled on the basis of the educational and professional program "Medicine" for the training of specialists of the second (master's) level of higher education in the specialty 222 "Medicine" of the field of knowledge 22 "Health care", approved by the Academic Council of ONMedU (minutes No. 8 dated 29/06/2023).

Authors:

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The working program is approved at the meeting of the Department of Otorhinolaryngology
Minutes No. 1 dated 30/08/2023.

Head of the department  Sergiy Pukhlik

Approved by the guarantor of the educational and professional program  Valeriia MARICHEREDA

Approved by the subject-cycle methodological commission for surgery of ONMedU
Minutes No. 1 dated 30/08/2023.

Head of the subject-cycle methodological commission for surgery of ONMedU

 Vasil Mishchenko

Revised and approved at the meeting of the Department of Otorhinolaryngology
Minutes No. 1 dated 28/08/2024

Head of the department  Sergiy Pukhlik

Revised and approved at the meeting of the Department of Otorhinolaryngology
Minutes No. __ dated __/__/20__.

Head of the department _____ Sergiy Pukhlik

1. Description of the discipline:

Name of indicators	Field of knowledge, specialty, specialization, level of higher education	Characteristics of the discipline
Total number:	Field of knowledge 22 «Health care»	<i>Full-time (day) education</i> <i>Compulsory discipline</i>
Credits of ECTS: 3	Specialty 222 «Medicine»	<i>Course: 4</i>
Hours: 90	Level of higher education second (master's degree)	<i>Semester: VII - VIII</i>
Content modules: 4		<i>Lectures (6hours)</i>
		<i>Seminars(0 hours)</i>
		<i>Practical classes(54 hours)</i>
		<i>Laboratories(0 hours)</i>
		<i>Independent work (30hours)</i>
		<i>including individual tasks (0hours)</i>
		<i>Form of final control –</i> <i>DifferentiatedCredit</i>

2. The purpose and tasks of the educational discipline, competencies, program learning outcomes

The purpose is

- mastering diagnostic methods;
- treatment and the most common ENT diseases;
- mastering systematic knowledge on the organization of ENT care;
- the formation of practical skills in the use of ENT instruments;
- mastering the skills of examining ENT patients;
- familiarity with the principles of local and general anesthesia;
- mastering the ability to diagnose traumatic injuries of ENT organs and provide them with first aid
- familiarity with the basics of ENT oncology;
- the formation of practical skills for examining the patient's ENT and the registration of its results in the inpatient medical record;
- formation of the ability to apply the knowledge, skills, abilities and understanding of otorhinolaryngology to solve typical tasks of the doctor's health care at the relevant position, the scope of which is provided for by certain lists of syndromes and symptoms of diseases, physiological conditions and diseases requiring special patient management tactics conditions, laboratory and instrumental studies, medical manipulations.

The tasks of the discipline are the following:

- mastering the main activities necessary for organizing work in the ENT department and ensuring prevention of the occurrence and spread of nosocomial infection;
- acquisition of practical skills for examining ENT organs;
- acquisition of practical skills in providing first aid in such conditions as bleeding from the ENT organs, closed soft tissue damage, fracture of the facial bones, laryngeal stenosis
- acquisition of practical skills for endoscopic examination of ENT organs;
- mastering knowledge of the basics of local and general anesthesia, acquire the ability to choose the method of anesthesia depending on the condition of the patient and the available ENT pathology;
- acquisition of practical skills for diagnosis and differential diagnosis for various ENT infectious processes, obtaining skills for choosing a treatment program and means of prevention for ENT infections;
- acquisition of skills and abilities for examination of the patient's ENT and the registration of the results in the relevant medical documentation;
- the formation of moral, ethical and deontological qualities in professional communication with the patient.

The process of studying the discipline is aimed at forming elements of following competencies:

Integral competence (level 7) according to the requirements of the NRC. The ability to solve typical and complex problems, including those of a research and innovation nature in the field of medicine. Ability to continue learning with a high degree of autonomy.

General competences according to the requirements of the NRK

GC1. Ability to abstract thinking, analysis and synthesis

GC3. Ability to apply knowledge in practical situations

GC4. Knowledge and understanding of the subject area and understanding of professional activity

GC5. Ability to adapt and act in a new situation

GC6. Ability to make informed decisions

GC7. Ability to work in a team

GC10. Ability to use information and communication technologies

Special (professional, subject) competences

SC1. Ability to collect medical information about the patient and analyze clinical data

SC2. Ability to determine the necessary list of laboratory and instrumental studies and evaluate their results

SC3. Ability to establish a preliminary and clinical diagnosis of the disease

SC4. The ability to determine the necessary regime of work and rest in the treatment and prevention of diseases

SC5. The ability to determine the nature of nutrition in the treatment and prevention of diseases

SC6. Ability to determine the principles and nature of treatment and prevention of diseases

SC7. Ability to diagnose emergency conditions

SC8. Ability to determine tactics and provide emergency medical care help

SC9. Ability to carry out medical evacuation measures

SC11. Ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information, taking into account aspects of social and ethical responsibility, including early intervention systems

SC17. The ability to assess the impact of the environment, socio-economic and biological determinants on the state of health of an individual, family, population

SC25. Adherence to professional and academic integrity, to be responsible for the reliability of the obtained scientific results

SC26. The ability to determine the management tactics of persons subject to dispensary supervision

SC27. The ability to diagnose and determine the management tactics of patients with extrapulmonary and widespread forms of tuberculosis, including co-infection of TB/HIV with a chemoresistant course

Program learning outcomes (PLO):

PLO1. Have thorough knowledge of the structure of professional activity. To be able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, the ability for further professional training with a high level of autonomy.

PLO2. Understanding and knowledge of fundamental and clinical biomedical sciences, at a level sufficient for solving professional tasks in the field of health care.

PLO3. Specialized conceptual knowledge that includes scientific achievements in the field of health care and is the basis for conducting research, critical understanding of problems in the field of medicine and related interdisciplinary problems, including the system of early intervention.

PLO4. Identify and identify leading clinical symptoms and syndromes (according to list 1); according to standard methods, using preliminary data of the patient's history, data of the patient's examination, knowledge about the person, his organs and systems, establish a preliminary clinical diagnosis of the disease (according to list 2).

PLO5. Collect complaints, anamnesis of life and diseases, assess the psychomotor and physical development of the patient, the state of organs and systems of the body, based on the results of laboratory and instrumental studies, evaluate information regarding the diagnosis (according to list 4), taking into account the age of the patient.

PLO6. To establish the final clinical diagnosis by making a reasoned decision and analyzing the received subjective and objective data of clinical, additional examination, carrying out differential diagnosis,

observing the relevant ethical and legal norms, under the control of the head physician in the conditions of the health care institution (according to the list 2).

PLO7. Assign and analyze additional (mandatory and optional) examination methods (laboratory, functional and/or instrumental) (according to list 4), patients with diseases of organs and body systems for differential diagnosis of diseases (according to list 2).

PLO8. Determine the main clinical syndrome or symptom that determines the severity of the condition of the victim/injured person (according to list 3) by making a reasoned decision about the person's condition under any circumstances (in the conditions of a health care facility, outside its borders), including in conditions of emergency and hostilities, in field conditions, in conditions of lack of information and limited time.

PLO9. Determine the nature and principles of treatment (conservative, operative) of patients with diseases (according to list 2), taking into account the age of the patient, in the conditions of a health care institution, outside its borders and at the stages of medical evacuation, including in field conditions, on the basis of a preliminary clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes, in case of the need to expand the standard scheme, be able to substantiate personalized recommendations under the control of the head physician in the conditions of a medical institution.

PLO10. Determine the necessary mode of work, rest and nutrition on the basis of the final clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes.

PLO14. Determine tactics and provide emergency medical care in emergency situations (according to list 3) in limited time conditions according to existing clinical protocols and standards of treatment.

PLO17. Perform medical manipulations (according to list 5) in the conditions of a medical institution, at home or at work based on a previous clinical diagnosis and/or indicators of the patient's condition by making a reasoned decision, observing the relevant ethical and legal norms.

PLO18. To determine the state of functioning and limitations of a person's vital activities and the duration of incapacity for work with the preparation of relevant documents, in the conditions of a health care institution, based on data about the disease and its course, peculiarities of a person's professional activity, etc. Maintain medical documentation regarding the patient and the contingent of the population on the basis of regulatory documents.

PLO21. Search for the necessary information in the professional literature and databases of other sources, analyze, evaluate and apply this information.

PLO32. The ability to diagnose and determine the management tactics of patients with extrapulmonary and common forms of tuberculosis, including co-infection of TB/HIV with a chemoresistant course.

As a result of studying the discipline, the student has to

Know:

- modern concepts of national and foreign theoretical and practical otorhinolaryngology;
- The basic principles of the organization of ENT care to the population of Ukraine;
- The basics of organizing a rational regimen and treatment for the patient's ENT
- common elements of care for ENT patients;
- theoretical aspects of ENT instrumentation and methods of its use;
- theoretical aspects of preventing the occurrence and spread of nosocomial ENT infection;
- classification, clinical manifestations, consequences of bleeding from the ENT organs, methods of temporary and final stop of bleeding;
- basics of anesthesia in otorhinolaryngology;
- tactics for laryngeal stenosis, clinical manifestations of various stages, their diagnosis, measures for conservative and surgical treatment;
- general issues of injuries of ENT organs
- general issues of ENT oncology;
- clinic, diagnosis and treatment of purulent-inflammatory diseases of ENT organs;
- features of the structure of the inpatient medical record.

Be able:

- organize appropriate sanitary and epidemic conditions for various premises of the ENT department;
- to collect anamnesis and objective examination of the patient's ENT;
- choose an adequate anesthesia method for this or that intervention

- diagnose various traumatic injuries of ENT organs;
- provide first aid for various traumatic injuries of ENT organs;
- choose the tactics of postoperative management of the patient's ENT, depending on the surgical intervention
- to diagnose various inflammatory and non-inflammatory processes of ENT organs, to conduct differential diagnostics between them;
- choose the appropriate surgical tactics for different stages of inflammation of ENT organs;
- draw up a program of conservative treatment of various inflammatory processes of ENT organs;
- issue an inpatient card for a patient with ENT pathology
- Comply with the requirements of ethics, bioethics and deontology in their professional activities.

3. The content of the educational discipline

Content module 1. Clinical anatomy, physiology, methods of examination of ENT-organs.

Theme 1. Endoscopic methods of examination of ENT organs. Mastering students with practical skills: using a frontal reflector, otoscopy, investigation of the patency of the auditory tube, anterior and posterior rhinoscopy, oropharyngoscopy, hypopharyngoscopy, laryngoscopy.

Theme 2. Clinical anatomy, physiology and methods of examination of cochlear apparatus. Capture students by practical skills: using a frontal reflector, lead through of otoscopy, research of communicating of otosalpinx. Clinical anatomy of auricle, external acoustic duct. Structure of ear-drum. System of cavities of middle ear. Topography of facial nerve. Types of structure of processus mastoideus. A value of age-old features of external and middle ear is in pathology of child's age. Blood supply and innervations of external and middle ear. A transmission, transformation role of middle ear is in the mechanism of sound conduction. Structure of cochlea and its receptor vehicle. Bone sound conduction, its types. Theories of sound conduction and sound perceiving. Audiometries. Objective methods of research of ear. Impedance audiometry, registration of the auditory caused potentials, otoacoustic emission. Interpretation of basic types of threshold audiogram.

Theme 3. Clinical anatomy, physiology and methods of examination of vestibular apparatus. Clinical anatomy of back labyrinth. Clinical anatomy of receptor vehicle of vestibulum and semicircular canals. Leading ways of vestibular analyzer. Adequate irritants of ampular and otolithic vehicle. Types of vestibular reactions. Nystagmus, its descriptions. Basic conformities to the law of nystagmus. Modern methods of vestibulometry: coordinating, caloric, rotatory, pressure test, electronystagmography, stabilography.

Theme 4. Clinical anatomy, physiology and methods of examination of nose, paranasal sinuses. Structure of external nose. Cavity of nose, structure of its walls. Functional departments of cavity of nose. Blood supply and innervations of the nasal system. Topographic relations of paranasal sinuses and surrounding anatomic educations. Features of structure of the nasal system are in child's age. Methods of nasoscopy and paranasal sinuses.

Theme 5. Clinical anatomy, physiology and methods of examination of pharynx. Anatomic formations and physiology of nasopharynx, oropharynx, hypopharynx.

Theme 6. Clinical anatomy, physiology and methods of examination of throat, larynx, trachea, bronchus, esophagus. Structure and functions of oesophageal ring. Topography of larynx. Cartilages, joints and copulas of larynx. Blood supply of larynx. Structure of trachea. Departments of trachea and its copulas. Structure of bronchial tubes. Blood supply and innervations of the tracheobronchial system. Structure of gullet, Blood supply, innervations. Parts of gullet and their topography. Anatomic-physiologic esophagostenosis.

Content module 2. Disease of ear.

Theme 7. Disease of auricle (ISW). External otitis (furuncle, inflammation of external acoustic duct is widespread), otomycosis, perichondritis, eczema, wax. Etiology, pathology, clinical symptoms, methods of treatment of diseases of auricle. Methods of delete of wax and extraneous bodies: by a hook, washing of external acoustic duct. Imposition of bandage on an ear and hot compress.

Theme 8. Acute middle otitis. Mastoiditis. Ways of penetration of infection are in a middle ear. Stages of sharp middle otitis, clinic, diagnostics. Patients have an estimation of information of otoscopy with sharp inflammation of middle ear, X-ray of temporal bones after Shyuller, KT and MRY of ear. Base of diagnosis, choice of rational medical tactic in dependence on the stage of disease. A testimony is to the paracentesis. Technique of paracentesis. Features of motion of middle otitis at infectious diseases and in child's age. Consequences of disease. Etiology, pathogenic, classification, clinic, to the otitis. Differential diagnosis of sharp middle otitis, to the otitis with an external otitis. Principles of treatment (conservative and surgical) in dependence on the stage to the otitis.

Theme 9. Atypical forms of mastoiditis (ISW). Ways of penetration of infection are in a processus mastoideus. Factors which influence on motion sharp an otitis. Varieties of otitis are in dependence on motion (latent, instantaneous) and localization of festering (apex-neck forms: Becol'da, Mure, Orlean, Chitelli; petrositis). Features of diagnostics and clinic forms to the otitis. Principles of treatment (conservative and surgical) in dependence on the stage to the otitis. Prophylaxis.

Theme 10. Chronic middle purulent otitis, labyrinthitis. A role of diseases of Upper respiratory tracts, immunological state of organism in genesis of chronic middle purulent otitis. Obligatory signs, mesotympanitis and epitympanitis, cholesteatoma, differential diagnostics. Basic principles of conservative and surgical treatment of

mesotympanitis and epitympanitis. Testimony to the operation on a processus mastoideus, its stages. Tympanoplasty. Stages and types (for Vul'shteyn). Labyrinthitis. Ways of penetration of infection are to the internal ear. Clinic form (limited, diffuse, serosal, purulent, necrotizing), diagnostics, treatment.

Theme 11. Nonpurulent diseases of ear. Acute and chronic catarrh of middle ear, an exudate middle otitis is reasons, value of allergy and dysfunction of otosalpinx in genesis of disease. Otoscopies, researches of auditory function, are given. Methods of conservative and surgical treatment: auripuncture, by-passing, laser draining of drum cavity. Sensoryneural deafness: etiologic classification, pathogeny, complex diagnostics, modern methods of conservative treatment. Prophylaxis

of diseases of auditory nerve. Otosclerosis: changes in a temporal bone, clinical symptoms. Principles of treatment. Menier diseases, pathogeny, conservative therapy, testimony, is to surgical treatment. Operations are on the nerves of drum cavity, draining of endolymphatic sack, labyrinthectomy.

Theme 12. Modern methods of surgical treatment of chronic middle otitis and deafness (ISW). Antromastoidoatticotomy, back tympanotomy, atticotomy, kinds of operations, technique implementations, possible complication. Audiometrical testimonies and contra-indications are to the operations. Stages and types (for Vul'shteyn) of tympanoplasty, principles of technique of surgical interference. The use of various materials is for proceeding in the defects of ear-drum and otosteons. Prophylaxis of violations of ear. A value of centers is in the health centre systems sick with the diseases of ear.

Content module 3. Disease of upper respiratory tracts.

Theme 13. Acute and chronic diseases of nasal cavity. Deformation of external nose and nasal partition. Sycosis, eczema, furuncle and carbuncle of nose, complications are possible. Principles of treatment. Acute and chronic rhinitis. A role of infection is in the origin of sharp rhinitis. Clinical stages. Principles of treatment. Differential diagnostics of acute rhinitis. Basic forms of chronic rhinitis (catarrhal, hypertrophic, atrophy, vasculomotor), clinic, diagnostics, treatment. Ozena, etiology, pathogeny, clinic, methods of treatment. Rhinallergosiss. Seasonal rhinallergosis. Whole-year rhinallergosis. Allergodiagnostic. Modern methods of treatment of diseases of nose.

Theme 14. Acute and chronic diseases of paranasal sinuses. Acute and chronic paranasal sinuses: path anatomical changes, classification, general and local symptoms. Additional methods of research: X-ray, KT, MRT, thermography et al. Treatment – conservative and surgical. Children age-old features of development of paranasal sinuses, value of them, in pathology of ENT-organs. Connection of genyantrum is with development of the teeth system. Testimony to the operations on paranasal sinuses for children.

Theme 15. Rhinogenic and otogenic intracranial and orbital complications. Rinogenic orbital complications. The reactive edema of cellulose of orbit and eyelids, subperiosteal abscess, phlegmon of orbit. Rinogenic intracranial complications. Ways of penetration of infection are in the cavity of skull. Extradural and subdural abscesses, meningitis, thrombosis cavernous and overhead longitudinal sinus. Clinic of complications, principles of treatment.

Theme 16. Acute tonsillopharyngitis. Pharyngitis, clinic, treatment. Acute primary tonsillitis: catarrhal, follicle, lacunar, ulcerous quinsies. Differential diagnostics. General principles of inspection, treatment and prophylaxis. Complication of quinsies. Paratonsillitis, abscess, parapharyngeal abscess, the phlegmon of neck, mediastinitis, sepsis. Abscesstonsillectomy. Retropharyngeal abscess.

Theme 17. Chronic inflammatory diseases of the pharynx.

Chronic pharyngitis and it's forms. A choice of method of treatment is in dependence on the form of disease. Leptotrichosis. Chronic tonsillitis: etiology, pathogeny, diagnostics. Classification of chronic tonsillitis. Indications and types of treatment. Hypertrophy pharyngeal, palatal and tongue tonsils, adenoiditis. Principles of treatment (conservative and surgical).

Theme 18. Complications of tonsillitis. Paratonsillitis, paratonsillarabscess, parapharyngealabscess, intratonsillarabscess, adenophlegmon, mediastinitis, tonsillogenicsepsis. Abscestonsylectomy. Retropharyngealabscess.

Theme 19. Acute secondary tonsillitis. Acute second tonsillitis: defeat of tonsils at infectious diseases (diphtheria, scarlet fever, rabbit-fever, typhoid) and at the diseases of the system of blood (infectious mononucleosis, agranulocytosis et al.). Characteristic changes of formula of blood. Methods of treatment.

Theme 20. Acute and chronic inflammatory diseases of larynx. Acute catarrhal laryngitis. Laryngeal quinsy, phlegmonous laryngitis. Childrens acute laryngotracheitis: etiology, pathogens, clinical classification, clinic, principles of treatment, nasotracheal prolonged intubation. Diphtheria of larynx. Chronic laryngitis: catarrhal, hypertrophic, atrophy. Etiologic factors of hypertrophic laryngitis, variants of disease, clinical displays, possible complication. Pre-tumour illnesses of larynx. Principles of conservative and surgical treatment. Professional diseases of larynx.

Theme 21. Stenosis of larynx. Etiology, classification, clinic of stenosis of larynx. Physiopathology mechanisms of indemnification and decompensation at insufficiency of breathing. The first aid and treatment of stenosis of larynx is in dependence on the stage of process. Completing of set of tools is for tracheotomy. Technique of execution of tracheotomy, conicotomy, possible complication.

Theme 22. Curation. Collecting the history of thematic patient. External examination of the patient and endoscopic examination of ENT organs. Analysis of additional examination methods (clinical, audiogram,

impedancemetry, radiographs, CT, MRI, ultrasound, biopsy data, bacteriological examination, etc.). Conducting a differential diagnosis. Formation of the final clinical diagnosis. Analysis of the literature. In writing a case history.

Theme 23. Benign tumors of upper respiratory tracts and ear. Of high quality tumors of nose and paranasal sinuses. Benign tumors of pharynx (youth angiofibroma of basis of skull). Benign tumors of larynx. Glomustumour of ENT-organs. Acoustic neurinoma. Principles of treatment.

Theme 24. Malignant tumors of ENT-organs. Malignant tumors of upper respiratory tracts and ear. Classification of tumors of upper respiratory tracts. Early and late signs of malignant tumors of larynx, pharynx, nose, paranasal sinuses, ear. Tonsillar tumors of pharynx, feature of histological structure, clinic, treatment. Cancer of larynx: stages of disease, clinic, diagnostics, in that number principles of early diagnostics. A choice of method of treatment is in dependence on a histological structure, localization and stage of tumor. Testimony to the ray, surgical and chemotherapy methods of treatment. Complex and combined therapy. Operations on a larynx, paranasal sinuses. A value of prophylactic reviews and health centre systems is in diagnostics and prevention of malignant new formations.

Theme 25. Infectious granulomas of upper respiratory tracts and ear. Terms of origin and types of infectious granulomas of upper respiratory tracts. Scleroma: etiology, epidemiology, features of localization, clinical stages, diagnostics. Displays primary, second, and tertiary luis of nose, pharynx, differential diagnostics with tuberculosis. Features of defeat of internal ear. Tuberculosis of nose. Tuberculosis of larynx, clinic, diagnostics, connection, is with the tubercular defeat of other organs. Modern methods of treatment of infectious granulomas of upper respiratory tracts and ear.

Content module 4. The first aid is at the diseases of ENT-organs.

Theme 26. Traumas of nose, epistaxis. Diagnostics of traumas of nose and paranasal sinuses. Classification of traumas of nose. The first aid is at traumas. Local and general reasons of epistaxis. Local and general facilities of stopping of epistaxis. Technique of anterior and back tamponade of nose. Methods of stop of bleeding from the area of Kiselbakh (cauterization of vessels of mucus shell, surgical stop of epistaxis). Bleeding from the ethmoidal labyrinth, methods of stopping.

Theme 27. Foreign bodies of ENT- organs. Varieties of foreign bodies of ear, deleting. A mechanism of aspiration of foreign bodies is in respiratory tracts. Features of clinic at the foreign bodies of larynx and trachea, bronchial tubes, methods of their delete. Roentgenologic inspection of patient. Phenomenon of Goltsnekht-Yakobson. Methods of diagnostics and delete. Symptoms and complication of foreign bodies of pharynx and esophagus. Clinic. The stages of inspection sick are with suspicion on the extraneous body of pharynx and esophagus. Roentgenologic methods of research. Treatment. Complication of foreign bodies of pharynx and esophagus (abscess of wall of esophagus, bleeding, perforation of wall of esophagus, phlegmon of neck, mediastinitis).

Theme 28. Burns of esophagus. Types of esophageal burns. The nature of necrosis in case of chemical burns with acids and alkalis. Pathological and clinical stages of esophageal burns. Clinic and first aid for esophageal burns. Volume of infusion therapy. Prevention and treatment of cicatricial stenoses of the esophagus. Esophageal dilatation.

Theme 29. Defense of the case history. Defense of case medical history. Etiology, pathogenesis, clinic, methods of diagnosis and treatment of a patient subject to curation. Carrying out a differential diagnosis. Prognosis for recovery and further management of the patient.

Theme 30. Differentiated test. The student solves 20 test tasks of the "Step - 2" type, answers theoretical questions, solves the thematic task and answers questions to it, demonstrates practical skills.

4. The structure of the educational discipline

Themes	Number of hours					
	Total	including				
		lectures	seminars	practical classes	laboratories	Independent work
Content module 1. Clinical anatomy, physiology, methods of examination of ENT-organs.						
Theme 1. Endoscopic methods of examination of ENT organs.	3	0	0	2	0	1
Theme 2. Clinical anatomy, physiology and methods of examination of cochlear apparatus.	3	0	0	2	0	1
Theme 3. Clinical anatomy, physiology and methods of	3	0	0	2	0	1

examination of vestibular apparatus.						
Theme 4. Clinical anatomy, physiology and methods of examination of nose, paranasal sinuses.	3	0	0	2	0	1
Theme 5. Clinical anatomy, physiology and methods of examination of pharynx.	3	0	0	2	0	1
Theme 6. Clinical anatomy, physiology and methods of examination of larynx, trachea, bronchus, esophagus.	3	0	0	2	0	1
<i>Total by content module 1</i>	18	0	0	12	0	6
<i>Content module 2. Disease of ear.</i>						
Theme 7. Disease of auricle (ISW).	1	2	0		0	1
Theme 8. Acute middle otitis. Otitis.	4		0	2	0	1
Theme 9. Atypical forms of otitis (ISW).	1		0	-	0	1
Theme 10. Chronic middle purulent otitis, labyrinthitis.	4		0	2	0	1
Theme 11. Nonpurulent diseases of ear.	3		0	2	0	1
Theme 12. Modern methods of surgical treatment of chronic middle otitis and deafness (ISW).	1		0	-	0	1
<i>Total by content module 2</i>	14	2	0	6	0	6
<i>Content module 3. Disease of upper respiratory tracts.</i>						
Theme 13. Acute and chronic diseases of nasal cavity.	3	2		2		1
Theme 14. Acute and chronic diseases of paranasal sinuses.	4			2		1
Theme 15. Rhinogenic and otogenic intracranial and orbital complications.	4			2		1
Theme 16. Acute tonsillopharyngitis.	4	2		2		1
Theme 17. Chronic inflammatory diseases of the pharynx.	3			2		1
Theme 18. Complications of tonsillitis.	3			2		1
Theme 19. Acute	3			2		1

secondary tonsillitis.						
Theme 20. Acute and chronic inflammatory diseases of larynx.	4			2		1
Theme 21. Stenosis of larynx.	3			2		1
Theme 22. Curration.	3			2		1
Theme 23. Benign tumors of upper respiratory tracts and ear.	3			2		1
Theme 24. Malignant tumors of ENT-organs.	3			2		1
Theme 25. Infectious granulomas of upper respiratory tracts and ear.	3			2		1
<i>Total by content module 3</i>	43	4		26		13
Content module 4. The first aid at the diseases of ENT-organs.						
Theme 26. Traumas of nose, epistaxis.	3	0		2		1
Theme 27. Foreign bodies of ENT- organs.	3			2		1
Theme 28. Burns of esophagus.	2			2		
Theme 29. Defense of the case history.	3			2		1
<i>Total by content module 4</i>	11			8		3
<i>Theme 30. Differential test</i>	4			2		2
<i>Individual task</i>	0	0	0	0	0	0
Total hours	90	6	0	54	0	30

5. Themes of lectures / seminars / practical classes/ laboratories

5.1. Themes of lectures

№	THEME	Hours
1.	Acute and chronic middle otitis. Mastoiditis. Methods of conservative and surgical treatment.	2
2.	Acute and chronic rhinosinusitis and its complications.	2
3.	Inflammatory diseases of pharynx and larynx. Tumors of ENT organs	2
	Total hours	6

5.2. Themes of seminars

Seminars are not provided.

5.3. Themes of practical classes

№	THEME	Hours
Content module 1. Clinical anatomy, physiology, methods of examination of ENT-organs.		
1.	Endoscopic methods of examination of ENT organs.	2
2.	Clinical anatomy, physiology and methods of examination of cochlear apparatus.	2

3	Clinical anatomy, physiology and methods of examination of vestibular apparatus.	2
4	Clinical anatomy, physiology and methods of examination of nose, paranasal sinuses.	2
5	Clinical anatomy, physiology and methods of examination of pharynx.	2
6	Clinical anatomy, physiology and methods of examination of larynx, trachea, bronchus, esophagus.	2
Content module 2. Disease of ear.		
7	Acute middle otitis. Mastoiditis.	2
8	Chronic middle purulent otitis, labyrinthitis.	2
9	Nonpurulent diseases of ear.	2
Content module 3. Disease of upper respiratory tracts.		
10	Acute and chronic diseases of nasal cavity.	2
11	Acute and chronic diseases of paranasal sinuses.	2
12	Rhinogenic and otogenic intracranial and orbital complications.	2
13	Acute tonsillopharyngitis.	2
14	Chronic inflammatory diseases of the pharynx.	2
15	Complications soft tonsillitis.	2
16	Acute secondary tonsillitis.	2
17	Acute and chronic inflammatory diseases of larynx.	2
18	Stenosis of larynx.	2
19	Curation.	2
20	Benign tumors of upper respiratory tracts and ear.	2
21	Malignant tumors of ENT-organs.	2
22	Infectious granulomas of upper respiratory tracts and ear.	2
Content module 4. The first aid is at the diseases of ENT-organs.		
23	Traumas of nose, epistaxis.	2
24	Foreign bodies of ENT- organs.	2
25	Burns of esophagus.	2
26	Defense of the case history.	2
27	Differential test	2
	Total hours	54

5.4. Themes of laboratories

Laboratories are not provided.

6. Independent work of the student

No.	Theme	Hours
1.	Theme 1. Preparation for practical classes	1
2.	Theme 2. Preparation for practical classes	1
3.	Theme 3. Preparation for practical classes	1
4.	Theme 4. Preparation for practical classes	1
5.	Theme 5. Preparation for practical classes	1
6.	Theme 6. Preparation for practical classes	1
7.	Theme 7. Studying the topic of ISW	1
8.	Theme 8. Preparation for practical classes	1
9.	Theme 9. Studying the topic of ISW	1
10.	Theme 10. Preparation for practical classes	1
11.	Theme 11. Preparation for practical classes	1
12.	Theme 12. Studying the topic of ISW	1
13.	Theme 13. Preparation for practical classes	1
14.	Theme 14. Preparation for practical classes	1
15.	Theme 15. Preparation for practical classes	1
16.	Theme 16. Preparation for practical classes	1
17.	Theme 17. Preparation for practical classes	1
18.	Theme 18. Preparation for practical classes	1

19.	Theme 19. Preparation for practical classes	1
20.	Theme 20. Preparation for practical classes	1
21.	Theme 21. Preparation for practical classes	1
22.	Theme 22. Preparation for practical classes	1
23.	Theme 23. Preparation for practical classes	1
24.	Theme 24. Preparation for practical classes	1
25.	Theme 25. Preparation for practical classes	1
26.	Theme 26. Preparation for practical classes	1
27.	Theme 27 Preparation for practical classes	1
28.	Theme 28 Preparation for practical classes	
29.	Theme 29 Preparation for practical classes	1
30.	Theme30 Preparation for Differential Test	2
	Total	30

The list of practical skills for the exam

№	The practical skill
1.	First Aid in injuries, foreign bodies, bleeding from the ENT organs
2.	Tracheotomy
3.	Differential diagnosis between false and true croup
4.	Examination of the external ear and eardrum
5.	Determination of the hearing
6.	Removing of the earwax from the ear
7.	Removing of the uncomplicated foreign body from ear, nose and throat
8.	Anterior and posterior rhinoscopy, otoscopy, pharyngoscopy, indirect laryngoscopy.
9.	Recognize and evaluate the main characteristics of the nasal septum deviation, nasal furuncle, acute and chronic rhinitis and sinusitis
10.	Determination of respiratory and olfactory nasal function
11.	Anterior nasal tamponade
12.	Taking swabs from the nose and pharynx

7. Teaching methods

Practical classes:

- verbal methods: conversation, explanation, discussion, discussion of the acute issues;
- visual methods: illustration (including multimedia presentations);
- practical methods: testing, solving situational tasks (including calculation ones).

Independent work:

- independent work with recommended basic and additional literature, with electronic information resources, preparation for practical classes;
- independent performance of an individual task, preparation of a presentation to defend an individual task.

8. Forms of control and evaluation methods

(including criteria for evaluating learning outcomes)

Ongoing control: oral survey, testing, evaluation of performance of practical skills, evaluation of communication skills during role-playing, solving situational clinical tasks, evaluation of activity in class.

Final control: testing according to the Step-2 type, oral differentiated assessment.

Assessment of the ongoing learning activity at the practical class:

1. Evaluation of theoretical knowledge on the theme:
 - methods: survey, solving a situational clinical problem
 - maximum score – 5, minimum score – 3, unsatisfactory score – 2.
2. Evaluation of practical skills and manipulations on the theme:
 - methods: assessment of the correctness of the performance of practical skills
 - maximum score – 5, minimum score – 3, unsatisfactory score – 2.
3. Evaluation of work with the patient on the theme:

- methods: assessment of: a) skills of communication with the patient, b) correctness of appointment and evaluation of laboratory and instrumental studies, c) adherence to the differential diagnosis algorithm, d) substantiation of the clinical diagnosis, e) preparation of a treatment plan;

- maximum score – 5, minimum score – 3, unsatisfactory score – 2.

The score for one practical class is the arithmetic average of all components and can only have an integer value (5, 4, 3, 2), which is rounded statistically.

Final control: Differential Test.

Criteria of ongoing assessment at the practical class

Score	Assessment criterion
Excellent «5»	The student is fluent in the material, takes an active part in discussing and solving a situational clinical problem, confidently demonstrates practical skills during the examination of a patient and the interpretation of clinical, laboratory and instrumental research data, expresses his opinion on the topic of the class, demonstrates clinical thinking.
Good «4»	The student has a good command of the material, participates in the discussion and solution of a situational clinical problem, demonstrates practical skills during the examination of a patient and the interpretation of clinical, laboratory and instrumental research data with some errors, expresses his opinion on the topic of the class, demonstrates clinical thinking.
Satisfactory «3»	The student does not have sufficient knowledge of the material, is unsure of participating in the discussion and solution of the situational clinical problem, demonstrates practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data with significant errors.
Unsatisfactory «2»	The student does not possess the material, does not participate in the discussion and solution of the situational clinical problem, does not demonstrate practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data.

The student is admitted to the differentiated assessment on the condition that the requirements of the educational program are met and if he received at least 3.00 points for the current educational activity and passed the test control of the "Step-2" tests with at least 90% (20 tasks). Test control is conducted at the department in the last lesson on the eve of the differentiated test.

Evaluation of study results during the final control

Type of the control	Scores
Answers to theoretical questions	2
Implementation and interpretation of practical skill	2
Solving a clinical problem with evaluation of laboratory and instrumental research	1

Criteria for evaluating the results of education students on differentiated test

Mark	Evaluation criteria
Excellent	The student correctly, accurately and completely completed all the tasks of the examination ticket, clearly and logically answered the questions posed by the examiners. Thoroughly and comprehensively knows the content of theoretical issues, fluent in professional and scientific terminology. Thinks logically and constructs an answer, freely uses acquired theoretical knowledge when analyzing practical tasks. When solving a clinical problem, he correctly interpreted the anamnesis data, the results of clinical, laboratory and instrumental studies, answered all the questions correctly and convincingly substantiated his point of view, could propose and justify an alternative version of the decision on individual issues. When performing and interpreting practical skills, he correctly demonstrated and followed the algorithm of their performance.
Good	The student completed all the tasks of the examination ticket in a sufficiently complete manner, clearly and logically answered the questions posed by the examiners. He knows the content of theoretical issues deeply and comprehensively, and has professional and scientific terminology.

	Thinks logically and constructs an answer, uses acquired theoretical knowledge when analyzing practical tasks. But when teaching some questions, there is not enough depth and argumentation, it makes insignificant mistakes, which are eliminated by the applicant himself when the examiner points them out. When solving a clinical problem, he assumed insignificant errors or inaccuracies in the interpretation of anamnesis data, the results of clinical, laboratory and instrumental studies, answered all the questions without significant errors, fully substantiated his point of view, but the proposal of an alternative option caused difficulties. During the execution and interpretation of the practical skill, he made minor errors in the algorithm and technique of its execution, which were corrected at the instruction of the teacher.
Satisfactorily	The student of education incompletely completed all the tasks of the examination ticket, the answers to additional and leading questions are vague and vague. Possesses a basic amount of theoretical knowledge, uses professional and scientific terminology inaccurately. Experiences significant difficulties in constructing an independent logical answer, in applying theoretical knowledge in the analysis of practical tasks. There are significant errors in the answers. When solving a clinical problem, he interpreted the anamnesis data, the results of clinical, laboratory and instrumental studies with errors, did not know individual details, allowed inaccuracies in the answers to questions, did not sufficiently justify his answers and interpret the wording correctly, experienced difficulties in completing tasks and offering alternative options. During the execution and interpretation of the practical skill, significant errors were made in the algorithm and technique of its execution.
Unsatisfactorily	The student of education did not complete the task of the examination ticket, in most cases did not answer the additional and leading questions of the examiners. He did not master the basic amount of theoretical knowledge, he showed a low level of mastery of professional and scientific terminology. Answers to questions are fragmentary, inconsistent, illogical, cannot apply theoretical knowledge when analyzing practical tasks. There are a significant number of gross errors in the answers. When solving a clinical problem, he could not interpret the received data from the anamnesis, the results of clinical, laboratory and instrumental studies, answer the questions, or made significant mistakes in the answers; could not justify his decisions or did it unconvincingly. He did not offer alternative options. When performing and interpreting practical skills, he did not demonstrate or made gross errors and mistakes in the algorithm and technique of its execution.

9. Distribution of points, obtained by the student

The grade for the discipline consists of 50% of the grade for the current academic performance and 50% of the grade for the differentiated test.

The average grade in the discipline is converted to the national grade and converted to points on a multi-point scale (200-point scale).

Conversion of traditional assessment into 200-point is carried out by the information and technical department of ONMedU by the special program by the formula:

$$\text{Average score (current academic performance)} \times 40.$$

Conversion table of traditional to multi-point

National score for the discipline	The sum of scores for the discipline
Excellent («5»)	185 – 200
Good («4»)	151 – 184
Satisfactory («3»)	120 – 150
Unsatisfactory («2»)	Less than 120

According to the ECTS rating scale, students' achievements in educational discipline, who study on the same course of one specialty, according to their scores, are assessed by means of rank, namely:

Conversion of the traditional evaluation and and ECTS scores

Score on the ECTS scale	Statistical indicator
A	The best 10% students
B	Next 25% students
C	Next 30% students

D	Next 25% students
E	Next 10% students

10. Methodological support

- Working program in the discipline
- Syllabus
- Methodological recommendations for the practical classes in the discipline
- Methodological recommendations for the individual work of students
- Multimedia presentations
- Situational tasks (including calculation)
- Tests on the theme

Educational and methodical literature:

Y.Mitin, Y.Deyeva, Y.Gomza, V. Didkovskiy etc. Otorhinolaryngology// Medicine, 2018. – 264p.

11. Questions for the final control

Content module 1. Clinical anatomy, physiology, methods of research of ENT-organs.

1. Clinical anatomy of ear-drum. The children location and structure of ear-drum.
2. Clinical anatomy of tympani cavity.
3. Clinical anatomy, physiology of otosalpinx. Features of its structure are in child's age.
4. Clinical anatomy of internal ear.
5. Structure of spiral organ. Adequate irritant of auditory analisator.
6. Mechanism of sound conduction (transmission, transformation of sound).
7. Theories of sound perceiving.
8. Clinical anatomy of the semicircular canals and ampular receptors of internal ear.
9. Structure of otolithicanalyser. Adequate irritants.
10. Vestibular nucleus and their connections.
11. Evald's laws.
12. Methods of research of vestibular analyser .
13. Clinical anatomy of cavity of nose.
14. Blood supply and innervations of cavity of nose.
15. Clinical value of paranasal sinuses. Clinical anatomy of maxillary sinus.
16. Clinical anatomy of frontal and ethmoidal sinuses.
17. Clinical anatomy of sphenoidal sinus.
18. Clinical physiology of cavity of nose and paranasal sinuses.
19. Clinical anatomy of pharynx, its departments.
20. Anatomy of lymphoid pharyngeal ring, structure of palatal tonsils. Age-old changed of lymphoid pharyngeal ring.
21. Physiology of lymphoid pharyngeal ring.
22. Clinical anatomy of cavity of larynx, innervation of larynx, its function.

Content module 2.Disease of ear.

23. Haematoma and perichondritis of auricle.
24. Wax, clinic, methods of delete.
25. External otitis: forms, etiology, clinic, treatment.
26. Acute middle otitis. Etiology, pathogenesis, clinic.
27. Treatment of acute middle otitis.
28. Acute mastoiditis: determination of concept, stage, clinic, diagnostics, treatment. Antromastoidotomy.
29. Atipsical forms to the mastoiditis.
30. Differential diagnostics of epitympanitis and mesotympanitis.
31. Conservative treatment of chronic middle otitis.
32. Types of operations at chronic middle otitis.
33. Labyrinthitis: forms, clinic, treatment.
34. Ways and stages of spreading of infection from an ear in the cavity of skull.
35. Otogenic abscesses of brain: clinic, treatment.
36. A sine is a thrombosis and отогенный sepsis: clinic, treatment.

37. Otagenniy meningitis: clinic and treatment.
38. Diseases of Menier: etiology, pathogenesis, clinic. Methods of treatment of acute vestibular disfunction.
39. Sensoneural deafness: etiology, clinic, treatment.
40. Otosclerosis: pathogenesis, clinic, methods of surgical treatment.

Content module 3. Disease of upper respiratory tracts

41. Furuncle of nose, clinic, treatment.
42. Acute rhinitis: etiology, pathogenesis, clinic and treatment.
43. Chronic rhinitis: etiology, pathogenesis, pathoanatomy, classification.
44. Ozena: clinic, differential diagnosis, principles of treatment.
45. Vasculomotor and allergic rhinitis: etiology, clinic, treatment.
46. Haematoma and abscess of nasal septum: clinic, treatment.
47. Deviation of nasal septum, synechia and atresia of nasal cavity; clinic, treatment.
48. Classification of acute and chronic sinusitis.
49. General and local signs of sharp and chronic sinusitis.
50. Chronic odontogenic sinusitis: clinic, diagnostics, treatment.
51. Chronic polypus sinusitis: etiology, clinic, treatment.
52. Rinogenic intracranial complications: ways of spreading of infection, types of complications, principles of treatment.
53. Rinogenic orbital complications: ways of of spreading of infection, types of complications, principles of treatment.
54. Classification of tonsillitis.
55. Lacunar quinsy: clinic, differential diagnosis, treatment.
56. Second quinsies.
57. Monocytic quinsy: etiology, clinic, treatment.
58. Paratonsillitis and paratonsillar abscess: etiology, classification, treatment.
59. Acute tonsillar sepsis: clinic, treatment.
60. Retropharyngeal abscess in children: clinic, treatment.
61. Adenoiditis: clinic, treatment.
62. Chronic tonsillitis: etiology, pathogenesis, classification, clinic.
63. Types of decompensation of chronic tonsillitis, diagnosis.
64. Conservative and surgical treatment of chronic tonsillitis.
65. Acute and chronic pharyngitis: etiology, clinic, treatment.
66. Acute and chronic laryngitis: etiology, clinic, treatment.
67. Youth angiofibroma of nasopharynx: clinic, diagnostics, methods of delete.
68. Classification of tumors of upper respiratory tracts.
69. Malignant tumors of nose and paranasal sinuses: diagnostics, treatment.
70. Pretumor diseases of larynx.
71. Cancer of larynx: etiology, localization, clinic, stages of development of disease.
72. Principles of treatment of malignant tumors of upper respiratory tracts.
73. Scleroma of upper respiratory tracts: etiology, pathanatomy, stages, treatments.
74. Tuberculosis of upper respiratory tracts: clinical displays, differential diagnosis.
75. Luis of upper respiratory tracts: clinic, differential diagnosis.

Content module 4. First aid at the diseases of ENMT-organs

76. Foreign bodies of ear, methods of their delete.
77. Foreign bodies of nose. methods of delete. Rinolith.
78. Traumas of nose and paranasal sinuses: classification, clinic, treatment.
79. Epistaxis: reasons, clinic, methods of stopping.
80. Stages of stenosis of larynx, principles of treatment (medicinal, intubation, tracheotomy).
81. Tracheotomy: indication, its variants, technique of execution.
82. Foreign bodies of esophagus: clinic, diagnostics, methods of delete.
83. Burns of esophagus: reasons, pathanatomical and clinical stages.
84. The first aid is at the burns of esophagus.
85. Foreign bodies of respiratory tracts: reasons of aspiration, anamnesis, characteristics of foreign bodies.

12. Recommended literature

Basic:

1. Y.Mitin, Y.Deyeva, Y.Gomza, V. Didkovskiyi etc. Otorhinolaryngology// Medicine, 2018. – 264p.
 2. Pukhlik S.M., Titarenko O.V. Otorhinolaryngology// Odessa, 2011. – 172 p.
 3. A.Al-Qahtani, H.Haidar, A.Larem. Textbook of Clinical Otolaryngology// Hardback, 2020. - 1155 p.
 4. P.W.Flint, B.H.Haughey, V.J.Lund, K.T.Robbins, J.R.Thomas, M.M.Lesperance, H.W.Francis. Cummings Otolaryngology: Head and Neck Surgery, 3-Volume Set// Format Hardback, 2020. - 3568
- Additional:**
5. S.N.Kumar.Clinical Cases In Otolaryngology// Paperback, 2016. – 260p.
 6. R.Pasha, J.S.Golub. Otolaryngology-Head and Neck Surgery : Clinical Reference Guid// Paperback, 2017. - 800 p.
 7. J. A.Seikel, D.G.Drumright, D.J.Hudock. Anatomy and Physiology for Speech, Language, and Hearing //Format Hardback, 2019. - 700 p.
 8. K.S.Helfer, E.L.Bartlett, A.N.Popper, R.R.Fay. Aging and Hearing: Causes and Consequences// Hardback. 2020. – 326p.
 9. Z.Mu, J.Fang. Practical Otorhinolaryngology, Head and Neck Surgery: Diagnosis and Treatment// Hardback, 2020. - 314 p.
 10. H.H.Ramadan, F.M.Baroodly. Pediatric Rhinosinusitis// Paperback, 2020. - 300 p.

13. Electronic information resources

1. World Health Organization. URL: www.who.int/ru/index.html.
2. European Regional Office of the World Health Organization. URL: www.euro.who.int.
3. www.ama-assn.org – American Medical Association
4. www.dec.gov.ua/mtd/home/ - State Expert Center of the Ministry of Health of Ukraine
5. <http://bma.org.uk>– British Medical Association
6. www.gmc-uk.org- *General Medical Council (GMC)*
7. www.bundesaerztekammer.de – German Medical Association